

## **The California Delta: A World-Class Bass Fishery - Adult Largemouth Size and Growth Distribution in the Sacramento-San Joaquin Delta**

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**Abstract:** The Sacramento-San Joaquin Delta has become a largemouth bass (*Micropterus sp.*) angler's dream fishery over the past several decades. Its notoriety for producing largemouth in excess of 10 lbs. has gained national attention and prompted a dramatic increase in largemouth bass tournament activity in the Delta. Tournament reports to the California Department of Fish and Game show a notable increase in average size of trophy largemouth bass. To investigate whether the relatively large body sizes of largemouth bass in the Delta may be due to increased growth rates and/or longevity, we collected 75 scales from adult largemouth bass weighed in at the 2011 Yamamoto Big Bass Challenge to determine age and growth rate. The length-at-age data was further compared with data from largemouth bass collected in electro-shocking surveys in Florida, northern Illinois, South Carolina, and Alabama. We used length-at-age data from these states to compare California Delta largemouth with Northern, Florida and hybrid largemouth populations. Results indicate that largemouth bass weighed in at the Big Bass Challenge were all more than 5 years old and more than half were 7 years old. Length-at-age data show that these fish continued to grow after age 4 at a faster rate when compared to largemouth bass of the same age from our comparison populations. For future work we have recently collected otoliths and scales from adult largemouth bass in the same age-class to validate our aging analysis. Continued assessment of ages and growth rates will be necessary to fully understand how the ages, growth rates and size distributions of largemouth bass in the Delta compare with other populations.

**Statement of Relevance:** The increased abundance and success of largemouth bass in the Sacramento-San Joaquin Delta, represents an overall shift in the littoral fish assemblages. The analysis of largemouth bass age and growth provides insight into many questions about population production, fish health, prey availability, and how current fisheries management strategies affect population numbers.